

Each year, more than four hundred children and adults in the U.S. are struck by lightning. On average, more than 70 people are killed and many others suffer with permanent disabilities. Most of these tragedies could be avoided. When thunderstorms threaten, coaches and officials must not let the desire to start or finish an athletic activity or event cloud their judgement when the safety of participants and spectators is in jeopardy.

***It is important for hikers to know some basic facts about lightning and its dangers –***

- **All thunderstorms produce lightning and are dangerous.** In the average year, lightning kills more people than either tornadoes or hurricanes.
- **Lightning often strikes outside the area of heavy rain and may strike as far as 10 miles from any rainfall.** Many deaths from lightning occur ahead of the storm simply because people wait too long before seeking shelter, or after the storm because people return to their activities too soon.
- **If you hear thunder, you are in danger.** Anytime thunder is heard, the thunderstorm is close enough to you that lightning could strike your location at any moment.
- **Lightning injuries can lead to permanent disabilities or death.** On average, about ten percent of lightning strike victims die and many of the survivors suffer very serious life-long disabilities.

***To avoid exposing yourself to the risk of thunderstorms take the following precautions –***

- **Plan ahead.** Check the forecast before leaving for your hike. Know the terrain and inform others where you will be going. Thunderstorms can produce heavy rain and cold winds which can cause hypothermia. Carry an extra set of dry clothes in your backpack.
- **Keep an eye on the sky.** Pay attention to weather clues that may warn of imminent danger. Look for darkening skies, flashes of lightning, or increasing wind are signs of an approaching thunderstorm.
- **Listen for thunder.** Outdoors is the most dangerous place to be during a lightning storm. If you hear thunder, get off the mountain and seek immediate shelter.
- **Be the lowest point.** Lightning hits the tallest object. In the mountains if you are above treeline, you ARE the highest object around. Quickly get below treeline and get into a grove of small trees. Don't be the second tallest object during a lightning storm! Crouch down if you are in an exposed area.
- **If you can't get to a shelter,** couch down on an insulating material (rope, rubber-soled boots, pack). Do not seek shelter in caves, depressions or near large boulders

***Precautions continued...***

- **Stay away from isolated trees, and communication towers.**
- **Thunderstorms can produce heavy rain and flash flooding so stay away streams, dry river beds and steep or narrow canyons.**
- **Do not resume activities until 30 minutes has passed since the last thunder was heard or the last lightning was observed.**
- **As a further safety measure, carry a portable NOAA Weather Radio with a tone alert feature.** The tone alert feature will automatically alert you when a flash flood warning and severe thunderstorm watches or warnings are issued. Regional broadcast stations include Reno/Sparks, Carson City, Truckee and the Lake Tahoe area on 162.550 Mhz; Reno/Sparks, Fallon, Fernley and the Pyramid Lake area on 162.450 Mhz; and Yerington, Hawthorne, Walker Lake area, Mammoth, and the Mono Lake area on 162.475 Mhz.

***If you feel your hair stand on end, lightning is about to strike***

- **Crouch down on the balls of your feet, put your hands on your knees, and bend your head down.** Make yourself the smallest target possible and minimize your contact with the ground.
- **Do not lie flat on the ground.**

## *What to do if someone is struck by lightning –*

- **Lightning victims do not carry an electrical charge, are safe to handle, and need immediate medical attention.**
- **Call for help.** Have someone call 9-1-1 or your local ambulance service. Medical attention is needed as quickly as possible.
- **Give first aid.** Cardiac arrest is the immediate cause of death in lightning fatalities. However, some deaths could be prevented if the victim receives the proper first aid immediately. Check the victim to see that they are breathing and have a pulse and continue to monitor the victim until help arrives. Begin CPR if necessary.
- **If possible, move the victim to a safer place.** An active thunderstorm is still dangerous. Don't let the rescuers become victims. Lightning can strike the same place twice



**STAY INFORMED ABOUT THE STORM** – by listening to NOAA Weather Radio for the latest forecast and any severe thunderstorm WATCHES or WARNINGS. Severe thunderstorms are storms that produce winds of 58 mph or more, or hail 3/4 of an inch or larger in diameter.

**A severe thunderstorm WATCH is issued** when conditions are favorable for severe weather to develop.

**A severe thunderstorm WARNING is issued** when severe weather is imminent. Weather Service personnel use information from weather radar, satellite, lightning detection, spotters, and other sources to issue these warnings.

Remember that **all thunderstorms produce lightning and all lightning can be deadly to those outside.**



**NOAA WEATHER RADIO IS THE BEST MEANS TO RECEIVE FORECASTS AND WARNINGS FROM THE NATIONAL WEATHER SERVICE:**

For additional information contact:

U.S. Department of Commerce, NOAA  
National Weather Service  
2350 Raggio Parkway  
Reno, NV 89512

[www.wrh.noaa.gov/reno](http://www.wrh.noaa.gov/reno)  
[www.lightningsafety.noaa.gov](http://www.lightningsafety.noaa.gov)

## *Hikers guide to lightning safety...*



## *the underrated killer!*

A SAFETY GUIDE

U.S. DEPARTMENT OF  
COMMERCE, NOAA

NATIONAL WEATHER  
SERVICE  
Reno, Nevada



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This safety guide has been prepared to help planners and officials at outdoor events recognize the dangers of lightning and take appropriate safety precautions.